



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER OF PATENTS AND TRADEMARKS  
Washington, D.C. 20231  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/936,891	10/19/2001	Emine Capan	P/2107-181	2941

2352 7590 03/24/2003

OSTROLENK FABER GERB & SOFFEN  
1180 AVENUE OF THE AMERICAS  
NEW YORK, NY 100368403

EXAMINER

KRISHNAN, GANAPATHY

ART UNIT	PAPER NUMBER
----------	--------------

1623

9

DATE MAILED: 03/24/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

**Application No.**

09/936,891

**Applicant(s)**

CAPAN ET AL.

**Examiner**

Ganapathy Krishnan

**Art Unit**

1623

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1 and 8-16 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1 and 8-16 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

### Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☒ Interview Summary (PTO-413) Paper No(s). 8.
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_ 6) ☐ Other: \_\_\_\_\_

Art Unit: 1623

### **DETAILED ACTION**

Applicant's election of Claims 1 and 8-16 without traverse in Paper No. 7 is acknowledged. The applicants did not elect a species as required by the election/restriction mailed 10 December 2002 (paper 6). Mr. Robert Faber, the attorney of record informed via telephone on 12 March 2003 that the applicants elect carbohydrate as the species.

Claims 2-7, 17 and 18 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected invention, there being no allowable generic or linking claim.

An action on the merits of Claims 1 and 8-16 elected without traverse in Paper No. 7 with carbohydrates as the species is contained herein below.

### ***Claim Rejections - 35 USC § 112***

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 8 and 9 are rejected under 35 U.S.C. 112, first paragraph, because the specification, while being enabling for the said process using the said catalysts individually, does not reasonably provide enablement for the said process using a combination of the catalysts. The specification does not enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to practice the invention commensurate in scope with these claims.

Art Unit: 1623

A conclusion of lack of enablement means that, based on the evidence regarding each of the factors below, the specification, at the time the application was filed, would not have taught one skilled in the art how to make and/or use the full scope of the claimed invention without undue experimentation.

- (A) The breadth of the claims;
- (B) The state of the prior art;
- (C) The level of predictability in the art;
- (D) The amount of direction provided by the inventor;
- (E) The existence of working examples; and
- (F) The quantity of experimentation needed to make or use the invention based on the content of the disclosure.

#### **The breadth of the claims**

Claims 8 and 9 are drawn to a process for the industrial conversion of carbohydrates where the metal catalyst is platinum, palladium, rhodium and/or ruthenium and the process where the metal catalyst is a base metal in particular, copper and/or nickel. The scope of the claim is seen to include different combinations of the said metals and in different ratios.

#### **The state of the prior art**

The examiner notes that the art cited by the applicants mention the use of a single catalyst with a promoter. However, there is no disclosure of bimetallic or mutimetallic catalyst seen in the prior art. The prior art appears to be silent with regard to the use of a combination of catalysts.

**The level of predictability in the art**

The examiner acknowledges the probability that the use of a combination of catalysts would have a reasonable expectation of success for the said conversion. There is not seen sufficient data to substantiate the assertion that a combination of more than one metal as catalyst would effect the desired conversion in any particular ratio.

**The amount of direction provided by the inventor**

The instant specification is not seen to provide enough guidance that would allow a skilled artisan to extrapolate from the disclosure and the examples provided to carry out the said conversion using a combination of metals as catalyst. The specification provides only examples wherein a single metal is used as a catalyst.

**The existence of working examples**

The working examples set forth in the instant specification drawn to the use of platinum, palladium, ruthenium, copper and nickel used individually. There is no example of the use of a combination of any two of the said catalysts and the optimal ratio of the two.

**The quantity of experimentation needed to make or use the invention based on the content of the disclosure**

Indeed, in view of the information set forth, the instant disclosure is not seen to be sufficient to enable a skilled artisan to practice the invention as set forth in the claims. A skilled artisan would not extrapolate the results seen in the conversion using individual catalysts as set forth in the instant specification to combinations of the same.

Art Unit: 1623

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1, 8-16 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 1 recites "industrial conversion". It is not clear what type of conversion is meant. For the purpose of prosecution of this case the term conversion is interpreted to mean any process wherein a carbohydrate is transformed into another product.

Regarding claim 8, the phrase "for example" abbreviated e.g. renders the claim indefinite because it is unclear whether the limitation(s) following the phrase are part of the claimed invention. See MPEP § 2173.05(d).

A broad range or limitation together with a narrow range or limitation that falls within the broad range or limitation (in the same claim) is considered indefinite, since the resulting claim does not clearly set forth the metes and bounds of the patent protection desired. Note the explanation given by the Board of Patent Appeals and Interferences in *Ex parte Wu*, 10 USPQ2d 2031, 2033 (Bd. Pat. App. & Inter. 1989), as to where broad language is followed by "such as" and then narrow language. The Board stated that this can render a claim indefinite by raising a question or doubt as to whether the feature introduced by such language is (a) merely exemplary of the remainder of the claim, and therefore not required, or (b) a required feature of the claims. Note also, for example, the decisions of *Ex parte Steigewald*, 131 USPQ 74 (Bd. App. 1961); *Ex parte Hall*, 83 USPQ 38 (Bd. App. 1948); and *Ex parte Hasche*, 86 USPQ 481

Art Unit: 1623

(Bd. App. 1949). In the present instance, claim 9 recites the broad recitation base metal, and the claim also recites copper and/or nickel which is the narrower statement of the range/limitation.

It is also not clear what is meant by “base metal” in claim 9.

Claim 11 recites ‘platinum alloy’. Since an alloy is a mixture of metals it is not clear what others metals are present in the alloy and in what ratio. Either the components of the alloy and their ratios should be recited or the term should be removed.

Claim 12 recites “at least two metals”. It is not clear if the two metals are any two of those recited in claim 8 or just any two metals. The recitation is vague and indefinite.

Claim 13 recites “at least one promoter metal” but fails to specify what the metal is. The claim is too broad in scope.

It is not clear what is meant by “suitable time intervals” in claim 14. The specific time interval should be recited.

Claims 10 and 16 are also rendered indefinite since they are dependent on base claims that are indefinite.

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1, 8-16 are rejected under 35 U.S.C. 102(a) as being anticipated by Gubitosa (WO 93/14867), Au (US 5,643,849) and Capik et al (US 3,670,035).

Art Unit: 1623

Gubitosa teaches the conversion of carbohydrates to lower polyhydric alcohols using ruthenium, palladium, platinum, rhodium and copper as catalysts (see abstract). Gubitosa also discloses the use of a mixture of ruthenium with platinum, palladium and rhodium (alloy) (see page 5, lines 1-7). The example on pages 11-12 gives the process for the conversion of an aqueous solution of sorbitol.

Au, drawn to slats of aldonic acids, reports the oxidative conversion of lactose to lactobionate in aqueous solution using palladium/bismuth/carbon as catalyst (see col. 3, line 1 through col. 4, line 65).

Capik et al disclose the preparation of polyhydric alcohols from carbohydrates in aqueous solution using nickel and copper as catalysts (see col. 3, line 11 through col. 4, line 32 and examples in cols. 5 and 6). Copper, chromium and cerium are also used as promoter metals in the conversion (see col. 8, claims 1 and 4).

The recitation "formed from a polymer-stabilized nanoparticles" used in the process claimed is not seen to result in a patentably distinguishable methodological difference. In other words, the source of the reagent is not seen to be of patentable import as it relates to the procedural steps of the method claimed.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ganapathy Krishnan whose telephone number is 703-305-4837. The examiner can normally be reached on 8.30am-5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, James O. Wilson can be reached on 703-308-4624. The fax phone numbers for the

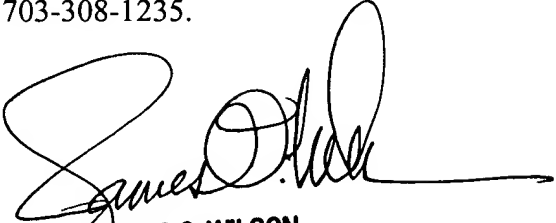
Art Unit: 1623

organization where this application or proceeding is assigned are 703-305-3014 for regular communications and 703-305-3014 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-1235.

GK

March 21, 2003



**JAMES O. WILSON**  
**SUPERVISORY PATENT EXAMINER**  
**TECHNOLOGY CENTER 1600**